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CROSS REFERENCE

This is a continuation application of the co-pending U.S. Patent Application Serial No. 09/311,718 filed on May 14, 1999. --

CLAIM AMENDMENT

Please **CANCEL** claims 1-51 without prejudice or disclaimer.

Please **ADD** new claims 52-102, as follows.

52. (Currently Added) A liquid crystal display comprising:

a first substrate;

a common electrode formed on the first substrate;

a plurality of protrusions formed on the common electrode;

a second substrate facing the first substrate; and

a pixel electrode having a plurality of apertures and formed on the second substrate.

53. (Currently Added) The liquid crystal display of claim 52, further comprising a chiral nematic liquid crystal layer having negative dielectric anisotropy and interposed between the first and second substrates.

54. (Currently Added) The liquid crystal display of claim 53, further comprising two vertical alignment layers formed on inner surfaces of the first and second substrates,

respectively, and aligning molecular axes of liquid crystal molecules in the liquid crystal layer in a direction perpendicular to the substrates.

55. (Currently Added) The liquid crystal display of claim 52, further comprising a first and a second polarizers attached to outer surfaces of the first and second substrates, respectively, polarizing directions of the first and second polarizers being perpendicular to each other.

56. (Currently Added) The liquid crystal display of claim 55, further comprising a first compensation film attached either between the first substrate and the first polarizer or between the second substrate and the second polarizer.

57. (Currently Added) The liquid crystal display of claim 56, wherein the first compensation film is a biaxial compensation film.

58. (Currently Added) The liquid crystal display of claim 57, wherein a slow axis of the first compensation film is parallel or perpendicular to the polarizing directions of the first and the second polarizers.

59. (Currently Added) The liquid crystal display of claim 56, further comprising a second compensation film attached either between the first substrates and the first polarizer or between the second substrate and the second polarizer.

60. (Currently Added) The liquid crystal display of claim 59, wherein the first and second compensation films are a-plate and c-plate compensation films, respectively.

61. (Currently Added) The liquid crystal display of claim 60, wherein a slow axis of the a-plate compensation film is parallel or perpendicular to the polarizing directions of the first and second polarizers.

62. (Currently Added) The liquid crystal display of claim 55, wherein the apertures have a shape of a wedge-shaped line having a width.

63. (Currently Added) The liquid crystal display of claim 55, wherein the protrusions have symmetrical cross sections and have a shape of a wedge-shaped line having a width, and the apertures and the protrusions are arranged alternately.

64. (Currently Added) The liquid crystal display of claim 63, wherein the polarizing directions of the first and second polarizers make an angle of 45° with the aperture and the protrusion.

65. (Currently Added) The liquid crystal display of claim 63, wherein the width of the aperture is 3 to 20 microns.

66. (Currently Added) The liquid crystal display of claim 65, wherein the width of the protrusion is 3 to 20 microns.

67. (Currently Added) The liquid crystal display of claim 66, wherein the distance between the aperture and the protrusion is 5 to 15 microns.

68. (Currently Added) The liquid crystal display of claim 67, wherein the height of the protrusion is 0.3 to 3 microns.

69. (Currently Added) The liquid crystal display of claim 55, wherein the aperture has a shape of cross including a first and a second portions crossing each other at a right angle.

70. (Currently Added) The liquid crystal display of claim 69, wherein the first and the second portions are parallel to the polarizing axes of the first and second polarizers respectively.

71. (Currently Added) The liquid crystal display of claim 55, wherein the aperture has an X shape including first and second portions crossing each other at a right angle.

72. (Currently Added) The liquid crystal display of claim 52, wherein the protrusions are made of polyimide.

73. (Currently Added) The liquid crystal display of claim 52, wherein the protrusions are made of photoresist.

74. (Currently Added) The liquid crystal display of claim 52, further comprising a black matrix overlapping the protrusions on the second substrate.

75. (Currently Added) The liquid crystal display of claim 74, further comprising a wire overlapping the aperture patterns on the first substrate.

76. (Currently Added) The liquid crystal display of claim 75, wherein the wire is a gate wire.

77. (Currently Added) A liquid crystal display comprising:
a first substrate including a pixel electrode having at least a wedge-shaped aperture; and
a second substrate facing the first substrate and including a common electrode and at least a wedge-shaped protrusion on the common electrode, the protrusion being parallel and alternate to the aperture.

78. (Currently Added) The liquid crystal display of claim 77, further comprising a wire overlapping the aperture on the first substrate.

79. (Currently Added) The liquid crystal display of claim 78, wherein the wire is a gate wire.

80. (Currently Added) The liquid crystal display of claim 77, wherein an edge of the pixel electrode between the aperture and the protrusion makes a right angle with the aperture.

81. (Currently Added) A liquid crystal display comprising:
a first substrate;
a common electrode formed on the first substrate;
a plurality of protrusions formed on the common electrode;
a second substrate facing the first substrate;
a pixel electrode having a plurality of apertures and formed on the second substrate; and
a liquid crystal layer having negative dielectric anisotropy and interposed between the first substrate and the second substrate,

wherein the liquid crystal layer has four domains which have different tilt directions due to the apertures and the protrusions, and the long axes of molecules in the liquid crystal layer in the adjacent domains are perpendicular to each other.

82. (Currently Added) A manufacturing method of a liquid crystal display comprising the steps of:

forming a plurality of protrusions on a first substrate;
forming a pixel electrode having a plurality of apertures on a second substrate; and
assembling the first substrate and the second substrate such that the protrusions and the apertures are alternately arranged.

83. (Currently Added) The manufacturing method of the liquid crystal display of claim 82, wherein the protrusions are made of a photo-sensitive material.

84. (Currently Added) The manufacturing method of the liquid crystal display of claim 83, wherein the step of forming the protrusions comprises the steps of:

- coating a photo-sensitive film;
- exposing the photo-sensitive film;
- developing the photo-sensitive film; and
- baking the photo-sensitive film.

85. (Currently Added) The manufacturing method of the liquid crystal display of claim 82, further comprising the step of forming vertical alignment layers on the first and second substrates.

86. (Currently Added) A liquid crystal display, comprising:

- a first substrate having a first electrode;
- a second substrate facing the first substrate and including a second electrode; and
- a plurality of protrusions provided on at least one of the first and second substrates, the plurality of protrusions including a first protrusion having a branch extending along an edge of the first electrode.

87. (Currently Added) The liquid crystal display of claim 86, wherein the plurality of protrusions are provided on the second substrate.

88. (Currently Added) The liquid crystal display of claim 87, further comprising a plurality of apertures provided on the first substrate and including a first aperture.

89. (Currently Added) The liquid crystal display of claim 88, wherein an edge of the first aperture is oblique to the edge of the first electrode, and an end of the first aperture is located near the edge of the first electrode.

90. (Currently Added) The liquid crystal display of claim 89, wherein the branch extends from the first protrusion toward the end of the first aperture.

91. (Currently Added) The liquid crystal display of claim 90, wherein the branch makes an acute angle with the edge of the first aperture.

92. (Currently Added) The liquid crystal display of claim 91, wherein the width of the branch decreases as goes from the first protrusion to the end of the first aperture.

93. (Currently Added) A liquid crystal display, comprising:
a first substrate;
a common electrode formed on the first substrate;
a protrusion pattern formed on the common electrode;
a second substrate facing the first substrate;
a pixel electrode formed on the second substrate;
an aperture pattern formed on the pixel electrode and alternatively arranged with the protrusion pattern;

first and second polarizers attached to outer surfaces of the first and second substrates, respectively, polarizing directions of the first and second polarizers being perpendicular to each other,

wherein the protrusion pattern comprises a wedge-shaped pattern, the wedge-shaped pattern having a first branch extended along a first edge of the pixel electrode to an area where the aperture pattern meets the first edge with an acute angle.

94. (Currently Added) The liquid crystal display of claim 93, wherein a width of the first branch decreases as advancing to an end of the first branch.

95. (Currently Added) The liquid crystal display of claim 94, wherein the wedge-shaped pattern has a second branch extending from a convex point of the wedge-shaped pattern toward a second edge of the pixel electrode.

96. (Currently Added) The liquid crystal display of claim 95, wherein a width of the second branch decreases as advancing toward the second edge of the pixel electrode.

97. (Currently Added) The liquid crystal display of claim 93, wherein the protrusion pattern has a symmetrical cross section.

98. (Currently Added) The liquid crystal display of claim 93, wherein the protrusion pattern further comprises a line-shaped pattern arranged substantially parallel to the aperture pattern.

99. (Currently Added) The liquid crystal display of claim 98, wherein the line-shaped pattern has a branch extended along a second edge of the pixel electrode toward an area where the aperture pattern stops near the second edge.

100. (Currently Added) The liquid crystal display of claim 99, wherein a width of the branch of the line-shaped pattern decreases as advancing toward the area where the aperture pattern stops near the second edge.

101. (Currently Added) The liquid crystal display of claim 93, wherein the aperture pattern further comprises a branch aperture extending from the first edge of the pixel electrode towards a concave point of the wedge-shaped pattern.

102. (Currently Added) The liquid crystal display of claim 101, wherein a width of the branch aperture decreases as advancing toward the concave point of the wedge-shaped pattern.